**BIOTECH Project Resource Center Loan Checklist**

Teacher: Date loaned:

School: # groups:

students/classes: Independent:

**Materials for Huntington's DNA(students work in groups of 4)**:

|  |  |  |
| --- | --- | --- |
| Number | Item | Returned? |
| 1 | hot water bath with lid |  |
| 3 liter bottles  | plastic bottles of TAE (can be poured back into containers) |  |
| 1 bottle per 4 gels | glass bottles of agarose (125 ml 0.8% agarose in TAE) |  |
| 1 | thermometer in plastic holder |  |
| 8 | 20 l pipettors |  |
| pipet tips, 5 per group  | pipette tip in baggie |  |
| 8 | Gel electrophoresis boxes, with 2 stoppers and 1 comb each |  |
| 8 | pairs of red and black wires |  |
| 8 individual or 4 dual power supplies  | power supplies for gel electrophoresis |  |
| 4 tubes of DNA per group | Huntington's DNA dye (Mom, Dad, Son and Daughter) |  |
| 1 per group | MW marker |  |
| 1 per group | Acetate Gel |  |
| 1 per group | Index card and sharpie |  |
| 1 | biohazard bag |  |

When you are reloading the bins, please check off each item in the 'Returned?' column as a double-check that all those little pieces of equipment get packed. Thanks!

If you have questions about experiments or materials, please feel free to contact the BIOTECH Project at:

Daryn Stover

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(520) 626-4664

**Have fun!**

**• 2% or 4% or 6% Dye stock**

The dye stocks are used to prepare working solutions of dye samples for agarose gel electrophoresis with simulated "DNA".

**Chemicals used for "DNA":**

Acid Blue 45 (4%)

Acid Blue 80 (6%)

Coomassie Blue G-250 (2%)

Xylene Cyanol (1%)

Hydroxy Napthol Blue (6%)

To make 1% dye stock (can be stored indefinitely at room temperature):

0.1 g dye

10 ml distilled water

To make 2% dye stock (can be stored indefinitely at room temperature):

0.1 g dye

5 ml distilled water

To make 4% dye stock (can be stored indefinitely at room temperature)

0.2 g dye

5 ml distilled water

To make 6% dye stock (can be stored indefinitely at room temperature):

0.3 g dye

5 ml distilled water

**• Dye Samples- Working Solutions**

To make 20 ml dye solution:

2 ml 50% glycerol (also known as glycerin)

1 ml dye stock (check for preciptate and mix well before using)

17 ml distilled water

* Hydroxy Napthol Blue is unstable and very purple at neutral pH. Add 500 l of 10% NaOH to the working solution of OH Nap Blue. So:

2 ml 50% glycerol (also known as glycerin)

1 ml dye stock (check for preciptate and mix well before using)

17 ml distilled water

5 l of 10M NaOH

**DNA and MW marker samples:**

# Mom Daughter Dad Son (B) Molecular Weight Marker

3ml OH Nap Blue 0.5ml G-250 0.5ml G-250 2ml Acid Blue 45 3ml OH Nap Blue

2ml Xylene Cyanol 3ml OH Nap Blue 2ml Acid Blue 45 2ml Xylene Cyanol 2ml Acid Blue 80

3ml 50% Glycerol 4.5ml 50% Glycerol 5.5ml 50% Glycerol 4ml 50% Glycerol 0.5ml G-250

 2.5ml 50% Glycerol

**• Tris-acetate-EDTA buffer for dye electrophoresis**

10X stock (per liter)

48.4 g Tris base

11.4 ml glacial acetic acid

3.72 grams EDTA

Add distilled water to make total volume 1 liter. Dilute to make 1X working solution (100ml stock, 900 ml distilled water).

**• 0.8% Agarose gel for dye electrophoresis**

In 250 ml Pyrex bottle, combine:

125 ml 1X TAE

1 g agarose

Microwave uncovered to melt agarose, be careful not to boil over on microwave or your hand. Cover loosely and store at room temperature.